

Exercise + weight loss perfect combo to fight diabetes

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Pairing exercise with a 10% weight loss can make a major health

improvement in people living with obesity and prediabetes, a new study says.

Building in [regular exercise](#) more than doubled sensitivity to insulin compared to just weight loss alone. This has the potential to prevent or delay prediabetes from progressing into type 2 diabetes while also decreasing the risk of heart disease, researchers said.

"Insulin resistance is a major factor that causes type 2 diabetes, nonalcoholic fatty liver disease and abnormal blood lipids in people with obesity," said senior investigator Dr. Samuel Klein, director of the Center for Human Nutrition at Washington University School of Medicine in St. Louis.

"We've shown that combining exercise with weight loss causes a marked improvement in whole-body insulin sensitivity, thereby lowering the risk of developing diabetes and treating obesity-related metabolic diseases to a much greater degree than is possible with weight loss alone," he said in a university news release.

Obesity makes the body resistant to insulin, leading to an increase in blood sugar concentration, Klein explained.

The 16 study volunteers were obese, with a [body mass index](#) ranging from 30 (the threshold for obesity) to 49. They also had prediabetes, with medical evidence of [insulin resistance](#).

Eight of the volunteers were put in a diet-only group and lost 10% of their [body weight](#). The other eight also dieted and lost 10% of their body weight but added a supervised exercise program several days each week.

"The data from most studies show that exercise has very little effect on body weight in people with obesity," said Klein. "Our study involved

detailed analyses of metabolic changes in muscle and body fat before and after a 10% weight loss in people who lost weight with diet therapy alone and in those who lost the same amount of weight with diet therapy plus supervised exercise training. The results demonstrate that the benefits of combining exercise with [weight loss](#) are considerable."

Millions of Americans—possibly as many as 96 million—have prediabetes. That's 1 in every 3 adults, the researchers noted. More than 37 million people in the United States have diabetes and more than 40% are obese, which is linked to diabetes.

"The metabolic benefits we found in this study demonstrate the profound reasons why exercise should always be included in weight-management therapy," Klein said.

Study findings were published June 26 in the journal *Nature Metabolism*.

More information: Joseph W. Beals et al, Dietary weight loss-induced improvements in metabolic function are enhanced by exercise in people with obesity and prediabetes, *Nature Metabolism* (2023). [DOI: 10.1038/s42255-023-00829-4](#)

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